

I CLAIM:

1. A cargo trailer for use with a motorized vehicle,  
said trailer comprising:
  - a wheel assembly,
  - a floor supported by said wheel assembly,
  - two side walls extending upward from respective longitudinal sides of said floor,
  - a roof,
  - a front bulkhead,
  - a bottom rail along a bottom of each side wall joining each side wall to the floor, and
  - a top rail along a top of each side wall joining each side wall to the roof;each side wall comprising:
  - a wall panel including an outer surface and an inner surface,
  - a plurality of elongate horizontal scruff rails secured to the inner surface of the wall panel spaced vertically from each other, and
  - at least one set of a plurality of vertically extending post segments, each post segment having an upper end and a lower end,
  - a lowermost of the scruff rails spaced upwardly from the bottom rail,
  - an uppermost of the scruff rails spaced downwardly from the top rail,
  - each scruff rail having an upper side portion, a central rub portion and a lower side portion with the central rub portion between the upper side portion and the lower side portion and extending farthest inwardly from the inner surface of the wall panel,each set of the post segments comprising:
  - a lower post segment having its lower end secured to the bottom rail and its upper end secured to the lower side portion of the lowermost scruff rail,
  - an upper post segment having its upper end secured to the top rail and its lower end secured to the upper side portion of upper most scruff rail, and

at least one intermediate post segment having its lower end secured to the upper side portion of a scruff rail immediately therebelow and its upper end secured to the lower side portion of a scruff rail immediately thereabove,

the post segments in each set disposed in-line with one another to present a continuous vertically extending structural member connecting the bottom rail to the top rail via the post segments of the set and the intervening scruff rails,

each post segment disposed such that most inwardly directed portions of each post segment do not extend inwardly past the central rub portion.

2. A cargo trailer as claimed in claim 1 wherein  
the wall panel comprises fibreglass reinforced plywood,  
the central rub portion of the scruff rails on each side wall is disposed in a common plane,  
most inwardly directed portions of each post segment on each side wall do not extend inwardly past the common plane.
3. A cargo trailer as claimed in claim 2 wherein  
the central rub portion of the scruff rails on each side wall is disposed in a common plane,  
most inwardly directed portions of each post segment on each side wall are recessed outwardly from the common plane.
4. A cargo trailer as claimed in claim 3 wherein  
each scruff rail and each post segment are formed from metal and are secured together by welding.
5. A cargo trailer as claimed in claim 3 wherein  
each scruff rail and each post segment are made of metal and are secured together by welding,

each bottom rail and top rail is also made of metal.

6. A cargo trailer as claimed in claim 1 wherein

the central rub portion of the scruff rails on each side wall is disposed in a common plane,

each of the upper side portion and the lower side portion of each scruff rail having an outer surface lying in a same outer plane and engaging the inner surface of the wall panel,

each of the upper side portion and the lower side portion of each scruff rail having an inner surface lying in a same inner plane parallel to the outer plane inward from the inner plane but spaced outward from the common plane,

the post segments having an outer surface and an inner surface with a distance there between less than a distance from the inner plane and the common plane,

the post segments secured to the respective upper and lower side portions of the scruff rails with the outer surface of the post segments in overlapping engagement with the inner surfaces of the upper and lower side portions of the scruff rails.

7. A cargo trailer as claimed in claim 6 wherein the post sections comprise a planar sheet of metal.

8. A cargo trailer as claimed in claim 1 further including a fifth wheel pickup assembly spaced forwardly from the wheel assembly,

the floor comprises a plurality of spaced horizontal beams extending between the bottom rails,

the wheel assembly includes bogey rails extending parallel the bottom rails under the beams,

the pickup assembly includes at least one structural member extending parallel the bottom rails under the beams,

each side wall including a side wall reinforcing beam member having an upper end and a lower end,

the side wall reinforcing beam member having its lower end secured along its length to the bottom rail and its upper end secured along its length to the lower side portion of lowermost scruff rail,

the side wall reinforcing beam member substantially spanning between a forwardmost end of the bogey rails and a rearwardmost end of the structural member of the pickup assembly,

each side wall reinforcing beam member disposed such that most inwardly directed portions of each side wall reinforcing beam member do not extend inwardly past the central rub portion.

9. A cargo trailer as claimed in claim 8 wherein each side wall reinforcing beam member comprises a lower post segment of at least one set of the post segments.

10. A cargo trailer as claimed in claim 9 wherein each side wall reinforcing beam member comprises a planar sheet of metal.

11. A cargo trailer as claimed in claim 10 wherein each scruff rail is formed from a planar sheet of metal with the central rub portion extending inwardly of the upper and lower side portions which are co-planar.

12. A cargo trailer as claimed in claim 1 wherein the bottom rail has a lower portion disposed laterally outwardly of the floor and an upper portion rising above the floor adjacent the wall panel.

13. A cargo trailer as claimed in claim 12 wherein the upper portion of the bottom rail includes an inner leg inward of the wall panel adjacent thereto,

the lower post segment having its lower end secured to the bottom rail to lie inwardly of the inner leg,

the inner leg and lower end of the lower post segment having a combined thickness that most inwardly directed portions of the lower post segment do not extend inwardly past the central rub portion.

14. A cargo trailer as claimed in claim 13 wherein the upper portion of the bottom rail includes an outer leg outward of the wall panel adjacent thereto, the outer leg and inner leg forming an upwardly open channel with a horizontal base within which channel the lower end of the wall panel is secured.

15. A cargo trailer as claimed in claim 2 wherein the roof comprises a roof panel of fibreglass reinforced plywood spanning between the two side walls.

16. A cargo trailer as claimed in claim 2 wherein the roof comprises:  
an upper, outer roof panel of fibreglass reinforced plywood spanning between the two side walls,  
a plurality of horizontally extending roof beam members spanning between the side walls, and  
the roof beam members disposed between the outer roof panel and the inner sheet.

17. A cargo trailer as claimed in claim 6 wherein the bottom rail and floor beams comprise aluminum and the scruff rails and post sections comprise steel, the lower end of the lower post sections secured to the bottom rail insulated from the bottom rail to reduce against galvanic corrosion therebetween.

18. A cargo trailer for use with a motorized vehicle,  
said trailer comprising:

- a wheel assembly,
- a floor supported by said wheel assembly,
- two side walls extending upward from respective longitudinal sides of said floor,
- a roof, and
- a bottom rail along a bottom of each side wall joining each side wall to the floor;

each side wall comprising:

- a wall panel including an outer surface and an inner surface,
- a plurality of elongate horizontal scruff rails secured to the inner surface of the wall panel spaced vertically from each other, and
- at least one set of frame segments,
- a lowermost of the scruff rails spaced upwardly from the bottom rail,
- an uppermost of the scruff rails closest the roof,
- each scruff rail having an upper side portion, a central rub portion and a lower side portion with the central rub portion between the upper side portion and the lower side portion and extending farthest inwardly from the inner surface of the wall panel,
- each frame segment having an upper end and a lower end,
- each set of the frame segments comprising:
  - a lower frame segment having its lower end secured to the bottom rail and its upper end secured to the lower side portion of the lowermost scruff rail,
  - an upper frame segment having its lower end secured to the upper side portion of upper most scruff rail, and
  - at least one intermediate frame segment having its lower end secured to the upper side portion of a scruff rail immediately therebelow and its upper end secured to the lower side portion of a scruff rail immediately thereabove,
  - the frame segments in each set disposed in-line with one another to present a continuous extending structural member connecting the bottom rail and scruff rails via the frame segments of the set,
  - each frame segment disposed such that most inwardly directed portions of each frame segment do not extend inwardly past the central rub portion.